REFLECTIONS

ON

PETIT'S OPERATION,

AND ON

PURGATIVES AFTER HERNIOTOMY.

BY

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PARIS: J. B. BAILLIERE, RUE HAUTEFEUILLE.

MADRID: BAILLY BAILLIERE, CALLE DEL PRINCIPE.

M.DCCC.LV.

LONDON:
T. RICHARDS, 37 GREAT QUEEN STREET.

TO

WILLIAM LAWRENCE, ESQ., F.R.S.,

SURGEON EXTRAORDINARY TO THE QUEEN,

SENIOR SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

My dear Mr. Lawrence,—Your position among the Surgeons of the world, less than my need of opportunity to proffer you assurance of deep gratitude, induces me to deviate from common usage in dedicating to you these reflections, on one of the many great subjects to which you have largely contributed during the last half century. The unpretending character of this contribution would have forbidden me associating with it your name, but for my experience of your kindness, and a hope that I may live to prove how earnestly I have striven to merit its continuance.

I am, my dear Mr. Lawrence,

Very gratefully and respectfully yours,

JOSEPH SAMPSON GAMGEE.

Upper Woburn Place.

INTRODUCTION.

THOUGH, from the days of Franco,* surgeons have specially studied all matters relating to hernia,—so much so, indeed, that the reputation of several of the most illustrious among them is mainly based upon those investigations, and that more may be said to be known of this disease than of any other in the whole range of surgery,—there are yet some important points of practice in connexion with strangulated hernia, upon which opinion is divided, —particularly the propriety of endeavouring to remove the stricture without opening the sac, and of opening the bowels after relief has been afforded by the knife.

That I had not over-estimated the importance of these questions, when upon a former occasion I dedicated two memoirs† to their consideration, is proved by the recent valuable contributions of

* Traité des Hernies, etc., Lyons, 1561.

† Association Journal, 1853, p. 1055, et seq.; and 1854, p. 573, et seq.

Danzel,* Ward,† Prescott Hewett,‡ and Canton.§ The fact that these have still left the solution a desideratum, may, I hope, be deemed sufficient justification for this endeavour to further its attainment by re-publication of my memoirs, with such modification as wider experience and more mature reflection have suggested.

16, Upper Woburn Place, Russell Square,
London, 1st June, 1855.

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* Herniologische Studien mit besonderer Rücksicht auf die eingeklemmten Brüche. Göttingen, 1854.

† A Memoir on Strangulated Hernia from cases occurring in the London Hospital. London, 1854.

‡ Medical Times and Gazette, 1854, vol. i, p. 314-15.

§ Chapter "On the Employment of Purgative Medicines after the Operation for Hernia," pp. 56-67, in Surgical and Pathological Observations. London, 1855.

REFLECTIONS

ON

PETIT'S OPERATION:

BEING

A CRITICAL INQUIRY INTO THE RELATIVE MERITS OF THE INTRA AND EXTRA-PERITONEAL METHODS

OF

HERNIOTOMY.

While prosecuting my clinical researches in the great hospital of Sta. Maria Nuova in Florence, in 1851, I expressed surprise to my friend Dr. Palamidessi, the assistant clinical surgeon, at finding that, in operating for hernia, no attempt was ever made in that institution to reduce without opening the sac. Hence arose a discussion on the merits of this plan, which resulted in the doctor promising that he would put it to the test when a fitting case presented itself: he accordingly did so, but not without the propriety of his practice being called in question. At this juncture, he called upon me to furnish him all the evidence in my power in support of the extra-peritoneal operation. To comply with this request, I was led to devote considerable time to bibliographical research and analyses of cases. At the close of this investigation, I have been surprised at the unsatisfactory state of knowledge on the

subject; the opinions of distinguished surgeons being conflicting, and facts to reconcile them not at hand. Seeing moreover that, so late as 1850, Mr. Hancock deemed the question of sufficient importance to devote to it the greater part of an exceedingly able and elaborate monograph, in which he has enunciated propositions at variance with received opinions, and, in my opinion (I emit it with much deference), not in accordance with established facts, I am induced to methodise a few of the notes which I made in the pursuit of this investigation.

Originally performed in a case of strangulated inguinal hernia in the early part of the last century, by Jean Louis Petit,* the extra-peritoneal method of herniotomy did not gain much repute until 1788, when Monro strenuously defended it,† after having put it to the test of even wider experience than had been done by its originator. Sir Astley Cooper, Boyer, and Lawrence, recommended it in particular cases, but no further decided impulse was given to its generalisation until 1833, when Mr. Aston Key devoted to its advocacy a monograph‡

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* Traité des Opérations de Chirurgie, par René Jacques Croissant Garengeot, Paris, 1720, tom. i, p. 211. Traité des Maladies Chirurgicales, etc., ouvrage posthume de M. J. L. Petit, Paris, 1774, tom. ii, p. 370, et seq.

† A Description of all the Bursæ Mucosæ of the Human Body, etc., by Alexander Monro, M.D., Edinburgh, 1788, p. 43, et seq.

‡ A Memoir on the Advantages and Practicability of Dividing the Stricture in Strangulated Hernia on the Outside of the Sac, with cases and drawings, by C. Aston Key, London, 1833.

so rich in facts and sound surgical arguments, that many English surgeons adopted the innovation, and found reason to publish their testimony in its support. Mr. Luke and Mr. N. Ward, in particular, have claims to be regarded as advocates of the operation, by the statistical evidence they have supplied. With a voice so unanimous have the majority pronounced themselves followers of Petit and Monro, that the merit of their operation would appear to be no longer matter for question; but though the rank of dissentients be unimportant in point of numbers, their character renders them formidable: among them are Mr. Syme, Mr. Hancock, and Mr. Prescott Hewett.

In the third edition of his *Principles of Surgery*, published in 1842 (p. 325), Mr. Syme unconditionally condemned Petit's operation; but in 1851, feeling it requisite to explain the changes which had taken place in his sentiments since the publication of his last edition, he thus alludes to the subject under consideration:—"The late Mr. Aston Key and Mr. Luke, of London, have done much to revive and establish in practice an old proposal for lessening the risk of operations for hernia, by dividing the cause of constriction without opening the extension of peritoneum which constitutes the sac. The advantage attributed to this procedure, is that which may be supposed to result from leaving the serous membrane entire, and protecting it from the risk of inflammation; while the disadvantages alleged

to attend it are the dangers of wounding the intestine in dividing the stricture, the evils which may arise from reducing the strangulated parts in a state unfit for their admission, and the mischief which may arise from abortive efforts to effect reduction when it is impeded by adhesion or other change of the parts contained within the sac. On the whole, I feel satisfied that, as a general rule, it is better to open the sac; and that the procedure in question should be restricted to the treatment of large hernial protrusions, such as those of the scrotum, and of patients in unhealthy hospitals, where a strong disposition to inflammation of the serous membrane may be inferred from the frequency of erysipelas and phlebitis."* So striking is the difference in Mr. Syme's opinion in 1842 and 1851, that it cannot but be matter of regret that he has not deemed it advisable to state in detail the reasons which have induced it. But, in point of fact, though he has explicitly opposed Petit's operation, even in his last publication, the terms in which he has expressed himself imply a forcible argument in its support. From his admission that in "patients in unhealthy hospitals, where a strong disposition to inflammation of the serous membranes may be inferred from the frequency of erysipelas and phlebitis", it is advisable to perform Petit's operation, it is evident Mr. Syme believes that by not opening the sac the tendency to peritonitis is lessened. Hence

* Supplement to Principles of Surgery, p. 31.

arises a great reason for the preference of Petit's method whenever practicable: peritonitis being one of the great causes, if not the greatest, of mortality after operations for hernia. The advocates of Petit's operation cannot but infer an argument in support of it, from the very fact of Mr. Syme having in any degree deemed it necessary to slacken the force of his opposition to it, after the addition of nine years to his experience, which was already very great when, in 1842, he expressed himself in terms so decidedly adverse; they cannot but see some analogy in cause and probable effect, between this change in Mr. Syme's opinion, and that which took place in Mr. Liston. In 1840,* Mr. Liston stated, that in operating for femoral hernia, when the sac has been exposed, it is to be opened with great caution; and he commented on the recommendation of some, that the sac should be left undivided, and that the stricture should be relieved by passing the knife on the outside, by observing that the stricture cannot be well relieved unless the neck of the sac is cut, along with the resisting fibres exterior to it. Six years afterwards, he thus alluded to the practice of endeavouring to reduce without opening the sac:† "I have fortunately succeeded in effecting this object in a considerable number of instances, within these few years, and it is a pro-

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* Elements of Surgery, 1840, p. 530.

† Practical Surgery, 1846.

ceeding which I should strenuously advise the adoption of, when nothing contra-indicates it." The result which followed the trial of Petit's operation in Mr. Liston's hands, is precisely that which has attended it since it was first imagined. Opposed on the grounds of preconceived opinions, it has steadily gained in repute, in proportion as it has been put to the test of experience.

Mr. Hancock's opposition is far more decided than is that of the Edinburgh Professor. "Opening the sac", he says,* "does not increase the danger of the operation; but, on the contrary, is to be preferred as the safer mode of proceeding." So forcibly and ably, and in many respects so plausibly, has Mr. Hancock defended his opinion, that it deserves most attentive consideration. If correct, it is calculated to do much good; otherwise, its adoption must be attended with practical mischief, of a magnitude proportionate to the immense importance of the affection, as a rule in the treatment of which it is propounded.

The array of authorities—Dupuytren, Richter, Hey, Heister, Sir Astley Cooper, Lawrence, South—whom Mr. Hancock cites† as opponents of Petit's operation, is *prima facie* so formidable as to deprive it of all claim to support; but it becomes very

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* On the Operation for Strangulated Hernia. By Henry Hancock. London: 1850.

† Op. cit. p. 2.

much less so when critically examined. Even Mr. Hancock admits that Sir Astley Cooper's opposition was only partial, for he recommended the operation in old and large incarcerated herniæ.

So far back as 1804, this distinguished surgeon insisted on the two-fold advantages accruing from division of the stricture without cutting the sac itself;—immunity from danger of injuring the intestine with the naked edge of the knife, and facility for securing the epigastric artery, in case of its being wounded.* He again expatiates on these advantages in 1827 (*Op. cit.*, 2nd ed., p. 39), and describes a method for dividing the stricture without including the sac, which he had occasionally practised, and had for some time recommended in his lectures.

But more; Sir Astley, in expressing his belief "that surgeons will employ it more generally when they shall have learned its advantages from experience,"† pronounced a very high encomium on Petit's innovation: for he implied a conviction that the reason why it was not much resorted to in his time was because its advantages were not known, and the ordinary operation was preferred in accordance with previously formed opinions; but so in-

* The Anatomy and Surgical Treatment of Inguinal and Congenital Hernia, by Astley Cooper, F.R.S., London, 1804, p. 30.

† I quote this opinion of Sir Astley, from Lawrence on Hernia. p. 277. Third edition.

trinsic was its merit, that it would only become more apparent after more extended experience, and impel surgeons to adopt the new method by practically convincing them that it was the best. Qualified are also the objections of Heister ;* but what is of even more importance is, that there is no evidence of their being the fruit of experience ; they rather bear the stamp of a mere expression of opinion: "Nec mihi nec aliis præstantioribus chirurgis satis placet," is Heister's judgment on this important matter.

True it is that Dupuytren constantly practised the ordinary operation for hernia ; and, in thus doing, he entered a practical protest against Petit's operation. But it is fairer to say that he overlooked it, than that he opposed it ; for, after diligent search I cannot find that he either refuted by argument the practical teaching of Petit, and Monro, or that he sought to acquire personal knowledge of its value by putting it to the test of experience.

The accession to Mr. Hancock's cause of an authority so deservedly esteemed in practical surgery

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* "Has igitur ob causas ut plurimum etiam in malo veteri magnoque tumore præstare existimo saeculum potius aperire quàm integrum relinquere ; eum modum non nisi in recenti malo, ubi nulla adhue intestinorum corruptio, nulla coneretio, nullus abseessus, tuto posse adhiberi ; quemadmodum et ipse Garengeotus hane eurationem nune ad hane observationes restringit, in altera operationum suarum ehirurgiearum editione." Dris. Laurentii Heisteri Institutiones Chirurgieæ, tom. iii, p. 112. Neapoli : 1749.

as was the late Mr. Hey, of Leeds, would indeed be considerable, if, contrary to his usual custom, this gentleman had not argued so manifestly *à priori* on the merits of Petit's operation, that no value can be attached to his objection, when opposed to the experience of a large number of the most renowned surgeons of the age. The following quotation will, I think, be found ample justification for this criticism :—

"It has been proposed* by respectable authorities to divide the abdominal ring, and reduce the protruding parts, without opening the hernial sac. The reasons given by Mr. Astley Cooper and Mr. Lawrence appear to me unanswerable. But, in ordinary cases, I think the advantages proposed by it are not to be set in competition with its dangers. The operation itself, as far as I am able to judge, must be much more difficult; the epigastric artery, when the operation is properly performed, is in little danger; it was never divided in any operation (of inguinal hernia) which I have performed myself, or seen performed by others; and it is by no means certain that the danger in this operation arises from making an opening through the peritoneum. Whereas, not to insist upon the impossibility of reducing the prolapsed parts, which must sometimes arise from the contracted state of the

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* Practical Observations in Surgery. By William Hey, F.R.S. Second edition. London: 1810. p. 144.

neck of the sac, the increased bulk of the parts, or their adhesion to the sac and to each other,—the uncertainty which must almost always occur of the existence of gangrene in the intestine or omentum (in which case, reduction, without opening the sac, must be considered as certainly fatal to the patient) far outweighs, in my opinion, any advantages that can fairly be supposed to arise from practice."

Richter, another of the great surgeons mentioned by Hancock as an *able opponent* of Petit's operation, is, on the contrary, one of its *most elaborate and most weighty advocates*. So deservedly reputed is he as an authority on hernia in general, and so ably has he discussed this question, that I do not hesitate to quote from him, though at length. He states very fully,* under seven heads, the reasons usually adduced against Petit's method, and adds:—"Such are the objections commonly adduced against this operation. They are imposing, but, not, however, so powerful and convincing as many authors deem them. . . . If it be objected, that incipient gangrene may be met with in cases in which, the strangulation being recent, there is little reason to expect it; and that, consequently, we are never in a state of safety in adopting this method, even though the operation be performed early, and before the symp-

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* Not having Richter's original at hand, I quote from the Italian translation of his Treatise on Hernia. Prima traduzione Italiana. Milano: 1802. pp. 146-191.

toms have acquired much gravity, I [Richter] answer that, if the surgeon, after having decided on the operation, still makes an attempt to reduce, whether with tobacco-smoke, taxis, or other means, and proves successful (the hernia is reduced without opening the sac, and its contents may be diseased), why should there not in such a case be reason to fear from the taxis what is feared half or quarter of an hour afterwards from the operation? Will the surgeon be blameable, if he succeed in his last attempt? or will a judicious surgeon abstain for this motive? Should not the taxis, tobacco-smoke, and all the other means, be rejected, because they all effect reduction without the sac being opened, and because, from the first day of strangulation, the sac's contents may be diseased? . . . This method of operating is too lightly considered, without any of its advantages being observed. Why is the sac opened in the operation? In order to be able to treat the diseased parts properly, to destroy adhesions, and the cause of the constriction, if it be situated within the sac; but if there be no diseased adherent parts, if the cause of strangulation be outside the sac, why then open it? I see no reason for doing so. Is not opening the sac under such circumstances, to say the least, superfluous and useless? And would it not be advisable to reduce without opening the sac, merely because there is no use in doing so?

"Petit's method has other real advantages. It

renders the operation less complicated; and the more simple an operation is, the more is it safe, easy, and perfect. It prevents the intestines being wounded, for they are not exposed. Finally, the intestines are not exposed to the air; and no one will deny this being an essential advantage. . . . I therefore think that this plan of operating should not be rejected in all cases, but that, on the contrary, it may be put into practice, under certain circumstances, with advantage."

Mr. Lawrence has very fully considered the arguments in favour of and against Petit's operation. He does not even express himself positively against the propriety of its *general adoption*, but holds it *sub judice*, suggesting some points for consideration before it can be assented to; and sagely remarks, that the question of eligibility between the ordinary course of proceeding and this modification, must be determined, like all other practical matters, by experience.* No doubt, however, exists in Mr. Lawrence's mind as to the reality of the advantages attending the performance of Petit's operation in particular cases; accordingly, he teaches that "the plan of removing the stricture without opening the sac† is particularly applicable to large and old ruptures, especially if the parts should be adherent, as they frequently are in such cases. To separate the preternatural connexions would require a tedious and difficult dissection,

* Op. cit., p. 290. † Id., p. 284.

with long exposure, and much handling of the viscera; and the violence necessarily inflicted in executing such an attempt renders the subsequent occurrence of inflammation almost certain. In laying open the whole of a large hernial tumour, the exposure of so extensive a surface is a source of great danger to the patient, who, in such cases, is frequently advanced in years, and therefore less able to withstand extensive inflammation and suppuration. We must remember, too, that in large herniæ, which have been long irreducible, the abdomen becomes accommodated to the diminished bulk of its contents; and that either it will not yield sufficiently to receive again the parts which have been long protruded, so that we cannot replace them, or, if we should accomplish the return, it is so painfully distended that the replaced viscera are soon forced out again. Moreover, the ring is so much dilated in those cases, that hernia will certainly reappear; and consequently there can be no expectation of a radical cure from the operation. These reflections will induce us to adopt the practice of removing the stricture without opening the tumour in all such cases." Of the tenor of Mr. South's opposition, the following passage from his annotated edition of *Chelius* (vol. ii, p. 47) will give an idea:—"From my own personal experience of the division of the stricture external to the sac, I can say nothing, never having performed it. But I do not think so great advantage is gained by not

opening the sac, as is stated.... Under all circumstances I am still disposed to continue the practice of opening the sac, as I have hitherto done, believing it to be the most safe."

We have yet to study Mr. Hancock's arguments.

In the belief that peritonitis is one of the great causes of death after operations for hernia, Petit's operation is defended by many, because, not involving wound of the peritoneum, and thus lessening the chances of its becoming inflamed. Mr. Hancock endeavours to dispel the hope of deriving benefit from not wounding the peritoneum, by disproving the general opinion that the occurrence of peritonitis is much to be dreaded. "Comparatively few patients", he alleges,* "die of simple peritonitis after this operation. Out of fifty-two fatal cases instanced by Gay, the symptoms of peritonitis alone existed only in eight; and in these the symptoms were so slight as to lead to the supposition that the patients died from the shock to their systems, rather than from the peritonitis. It is an interesting fact, that the amount of mortality is not in the same ratio as the extent of peritoneum and intestine exposed. Cases recorded prove the smaller herniæ to be those which present the most urgent symptoms; and Sir A. Cooper has related that, in the largest hernia he ever saw, having opened the sac, a large quantity of intestine with omentum

* Op. cit., p. 5.

protruded; but, after dividing the stricture, the adhesions were so great, that he judged it advisable not to attempt their separation; and, from the size of the hernia, it was impossible to bring the integuments over the intestine, which was therefore left exposed to the air; yet nothing untoward ensued; the intestine soon began to granulate and gradually sprout within the wound; and the patient recovered. Boyer also gives a case which occurred to Petit. Although the stricture was freely divided, and there were no adhesions, yet the gut could not be returned. Petit therefore allowed it to remain in the wound, and covered it with pledgets of linen. The greater part returned spontaneously into the abdomen, the wound healed, and the cure was accomplished."

Mr. Gay's table* is not, however, so favourable to Mr. Hancock as appears from the above quotation. Though it be true that, out of the fifty-two fatal cases, the symptoms of peritonitis alone existed only in eight, it is very essential to bear in mind that peritonitis existed with other pathological conditions in many more cases: thus, in two cases, it was associated with portions of bowel sloughed and adherent to the ring; in three, the bowels were matted together, with or without sero-purulent effusion, and the strangulated portion of gut was

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* On Femoral Rupture, its Anatomy, Pathology, and Surgery: with plates. By John Gay. London: 1849. p. 79.

ruptured; in other two cases, lymph was effused, and gangrene threatened. Though in these cases the peritonitis was not the only pathological change, it was in many a primary one—in all, a very serious complication. After studying Mr. Gay's table, I can see no reason for dreading peritonitis after operation for hernia, less than I did before I became acquainted with Mr. Hancock's objection; and I am as much as ever convinced that any plan of operation which lessens the chances of peritonitis is *pro tanto* calculated to lessen the mortality of the operation. The grounds of my conviction are the recorded experiences of many of the most eminent surgeons of all countries, and my own observations. How many are the cases in which the operation is followed by symptoms of peritoneal inflammation, which necessitate the employment of antiphlogistic remedies! How evident in many cases is the ratio between the rapidity of recovery and the activity with which these remedies are employed!

When Mr. Hancock characterises as interesting the fact that the amount of mortality is not in the same ratio as the extent of peritoneum and intestine exposed, and implicitly infers therefrom (as the context proves) that the danger of the operation cannot be in proportion to the chances of peritonitis, and that the peritoneum may be cut with impunity, he loses sight of a fact at least equally interesting and important,—he has com-

pared large and small herniæ, as if their size and the extent of the peritoneum involved were the only difference between them; but this is not exactly the case. The difference in danger between large and small herniæ depends upon a cause, in itself so active as to mask the relative effect of opening a large and a small peritoneal sac. The smaller herniæ are of the femoral kind, in which, owing to the anatomy of the parts, the constriction is most valid, and most speedily productive of ill effects. In the case of inguinal herniæ, the larger ones are as a rule the least dangerous, for a similar reason. The parts through which a large quantity of omentum and intestine has been in the habit of descending are stretched and thin, and far less able to strangulate tightly, than are parts little altered from their normal position and nutrition. It is perfectly intelligible that the danger should be in direct ratio to the validity of strangulation; and it is the very reverse of paradoxical, to assert that, *cæteris paribus*, a wound of the peritoneum is a cause of danger, and yet that, as a rule, operations for hernia are fatal in inverse ratio to the size of the sac—to the extent of peritoneum involved.

The cases of Astley Cooper and Petit, quoted by Mr. Hancock, in which large quantities of intestine were left exposed to the air without injury, are interesting as extraordinary exceptions; but it would be no more fair to argue from what happened in them, as to the rule of operations for

hernia, than it would be to predicate the effects of gunshot wounds of the stomach, from what occurred in the case of Alexis St. Martin, thanks to Dr. Beaumont, of physiological celebrity.

"The history of strangulated hernia proves by every-day experience that the peritoneum may be cut with impunity. I am willing to admit that if we cut or irritate healthy peritoneum, we may induce peritonitis, although even this does not always occur; but if we cut inflamed peritoneum, the inflammation does not necessarily increase, especially when that inflammation results from some exciting cause. An incision thus becomes a relief to the patient; whereas, when made in the healthy peritoneum, we inflict a violence on the part. I believe, and I am supported in this belief by the observations of Sir Charles Bell, that we may cut diseased with greater impunity than healthy peritoneum. The abdominal sections for ovariotomy prove this; the removal of large portions of omentum proves it; the operations for paracentesis abdominis prove it; and the success which attended my case of cæcal disease tends to prove it."*

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* Op. cit., p. 6. On consulting the works of Sir Charles Bell, I have certainly found in him a distinguished upholder of Mr. Hancock's views as to the comparative innocence of wounds of the peritoneum in strangulated hernia; but I have been unable to discover in the learned baronet's writings any trace of the advocacy of Petit's operation which Mr. Hancock attri-

The admission that if we cut or irritate healthy peritoneum we may induce peritonitis, is at least an argument why such cutting should, if possible, be avoided in operating for hernia before inflammation has set in. Granting that removing the cause of the peritonitis is in many cases an effectual cure of it, it does not follow but that, in other cases, the incision may be a sufficient cause of aggravation to counteract the benefit which accrues from relief of the constriction. The abdominal section for ovariotomy, the removal of large portions of omentum, and the operation for paracentesis abdominis, prove that in these particular forms of disease there is comparatively little chance of peritonitis following the use of the knife; but they in no degree tend to subvert the common-sense suggestion that once in a case of strangulated hernia the peritoneum has become the seat of inflammation, this may be perpetuated and aggravated by the substitution of another mechanical cause (an incision), for the original one (constriction), when this has ceased to operate.

Mr. Key's admission that the inflammation after the operation for hernia spreads from the bowel, and not from the incision in the sac, is regarded by

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butes to him (p. 1). In his System of Operative Surgery (1807, vol. i, p. 290), Sir Charles admits the propriety of leaving the sac intact in enormous herniæ; but in the generality of cases he is certain the proposal is inadmissible, as calculated to do more harm than good.

Mr. Hancock* "as a conclusive proof that the danger and inflammation result from the violence inflicted on the gut itself by the strangulation; and that opening the sac, and thereby laying bare the abdominal cavity, has literally nothing to do with the fatal termination." The conclusiveness of the proof is fairly questionable; for though it might be just to infer from Mr. Key's observations that opening the sac does not injure it or the parietal peritoneum, it is unjust to allege that opening the sac does harm to nothing, and that the violence inflicted on the gut itself by the strangulation is the sole cause of the danger and inflammation. It is in accordance with general surgical experience to hold, until facts shall have proved the reverse, that the inflammation occurring in, and spreading from the peritoneum covering the bowel, is partly at least the result of its exposure to the air and manipulation entailed by opening the sac, and therefore that it is advisable to avoid opening the sac, unless other reasons call for it. Strenuously as Mr. Hancock insists on the impunity with which the peritoneum may be cut into in cases of strangulated hernia, it is impossible to say how he would account for the immense difference in the ratio of mortality, when the strangulation can be removed by the taxis, and when the knife is called for. Allowing that the very fact of operation

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* Op. cit., p. 7.

being needed is proof of the greater seriousness of the case than when the taxis suffices, one cannot help regarding incision into the peritoneal sac as a most dangerous step in the operation, certainly not a harmless one.

Proceeding with the reading of Mr. Hancock's paper, we find at p. 25: "My objections to Petit's operation are, that it is not applicable to all cases." He goes on to relate as unfit, cases of strangulation by omentum and by bands within the internal aperture, and cases of gangrenous intestine. As to the two first classes of objectionable cases, let me observe that the taxis would be tried in them. In some it would fail, and then probably Petit's would fail also, and no harm be done. If it succeeded in reducing, and produced disastrous after consequences, the one method would be as objectionable as the other; and yet we presume Mr. Hancock himself would try the taxis, for he could not tell the nature of the strangulation. As to the cases of gangrenous intestine, the great majority can be diagnosed by the rational signs prior to operation; and it is only in a very few indeed that there would be danger of returning disorganised gut.

"Again, if this mode of operation is not intended to apply to cases in which the stricture exists in the neck of the sac, its sphere of action is very limited; and so far from becoming a method of general adoption, it will be found to apply, accord-

ing to Dupuytren, to merely one case in nine in inguinal, although in femoral hernia its application is more extensive."*

But the fact that the sphere of action may be limited is not an argument why the benefit derivable from it should not be availed of in that sphere, however small it may be: because we cannot have the whole good, are we to refuse a part of it?

Mr. Hancock admits, that his objections to Key's or Petit's operation apply to a certain extent to the employment of the taxis; but he adds: "There is this distinction between the taxis and the operation, that in the case of the former, should the symptoms recur or continue, we feel that we have merely employed a preliminary proceeding, and therefore can at once proceed to operation, and ascertain the cause of mischief. We have here performed only one operation, and the patient sustains the shock and dread of merely one operation; but the case is widely different where we have already operated, and the symptoms still persist. We are led to imagine that we have done all that the case admits of—that the persistent symptoms depend upon the injury sustained by the gut. We treat the patient accordingly; much valuable, and under the circumstances most invaluable, time is lost; and should we at length make up our minds that something

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* Op. cit., p. 41.

more should be tried, we are obliged to recommend a second operation to our unfortunate patient, with the humiliating feeling, through our selecting the wrong mode of proceeding in the first instance, we have increased his sufferings, whilst we have materially diminished his chances of recovery." But the fact of a comparatively slight operation not being sufficient in all cases, and possibly requiring ulterior proceedings of a more serious nature, is *per se* no reason why the patient should not have the benefit of the milder method. Very different from Mr. Hancock's were Mr. Liston's reflections on this point.* "The attempt (to perform Petit's operation) can do no harm; it causes little or no delay; and if it is not successful, the sac after all is opened, and the operation completed. If it does prove successful, the surgeon's mind is relieved of an uncommon load of anxiety."

Mr. Hancock's criticism on the statistics of the two operations, furnished in Mr. Gay's work on femoral hernia, has tended in some degree to lessen their apparent weight, as evidence of the superiority of Petit's over the ordinary method; for he has shewn, that in fifteen unsuccessful cases in which the sac was opened, death occurred from circumstances the fatal nature of which could not have been avoided by leaving the sac intact; still, Mr. Hancock feels bound to acknowledge that Mr. Luke

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* Practical Surgery, p. 558.

has been most successful, and that his statistics are in favour of Petit's operation. "Inclusive of cases occurring between 1831 and 1841 (which were selected), I* have attempted the performance of Petit's operation in eighty-four cases. Of this number, the operation was completed successfully, without opening the sac, in fifty-nine. In twenty-five it was necessary to open the sac to effect a reduction of the hernial contents, the opening generally varying in extent from one-half to one-quarter inch. With respect to the mortality amongst these patients, of the fifty-nine in whom the sac remained unopened, seven died; of the twenty-five in whom the sac was opened, eight died."

Mr. Ward informs us (*Op. cit.*), that "from the middle of Feb. 1851 to the middle of May 1854, a period of three years and a quarter, 69 cases of hernia were operated on in the London Hospital. Of this number 43 were femoral, 22 inguinal, and 4 umbilical....Of the 43 cases of femoral hernia the sac was not opened in 29, and opened in 13...Of the 29 cases of unopened sac, 4 died and 25 recovered. ...Of the 13 cases of femoral hernia in which the sac was opened, 6 died and 7 recovered...In the 22 cases of inguinal hernia, the sac was opened in all but 3; 14 recovered and 8 died...Of the 4 cases of umbilical hernia, 3 died and 1 recovered. In all the sac was opened. The aggregate mortality in

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* Luke, in Med. Chir. Trans., vol. xxxi, 1848, p. 103.

the 69 cases amounted to 21." From the already quoted memoir of Mr. Prescott Hewett we learn that, at St. George's the rule is to open the sac freely; that in 78 operations for strangulated hernia performed there during three years, the sac was opened freely in 75, and that the deaths did not exceed 19 in the entire number.

Premising that these numbers are much too small to enable us to form a judgment of the relative merits of different methods, in an operation influenced by such a multitude of circumstances as that for strangulated hernia is, we shall proceed to analyse them. Of eighty-four cases of strangulated hernia, Mr. Luke relieved fifty-nine without opening the sac, losing seven; whereas eight were the deaths out of twenty-five in patients in whom he found aperture of the sac necessary; thus fifteen was the aggregate mortality in the eighty-four cases. Twenty-one in sixty-nine—considerably less favourable—was the number of deaths in Mr. Ward's cases, which were treated according to Mr. Luke's precepts. On the other hand, Mr. Prescott Hewett gives nineteen in seventy-five as the number of deaths from herniotomy in St. George's, where the sac is all but universally opened. Uniting Mr. Luke's and Mr. Ward's results of the extra-peritoneal methods, we have thirty-six deaths in a hundred and fifty-three cases; while the opposite line of practice at St. George's gives nineteen fatalities in seventy-five cases.

If this experience do not amount to demonstrative proof that by the performance of Petit's operation in appropriate cases the fatality of strangulated hernia may be greatly lessened; it is certainly quite sufficient not only to encourage, but to demand further investigation, in order that we may arrive at a correct knowledge of the cases in which one or the other operation is peculiarly applicable.

In the numerous discussions to which the more modern operation for hernia has given rise, some have lost sight of the really important question at issue. The point to be determined is not which of the two methods deserves absolute preference, the extra- or the intra-peritoneal; but whether the great mortality of the operation for strangulated hernia admits of diminution by adopting one or the other, according to the indications in particular cases. If, as a rule, it be unphilosophical and practically mischievous for a surgeon to be wedded to any particular mode of procedure in all cases requiring a given operation, it certainly is so in hernia, the varieties of which are without number, and can only be adequately benefited by adapting the means of cure to the speciality of the case.

A

CRITICAL INQUIRY

INTO

THE PROPRIETY OF OPENING THE BOWELS

SOON AFTER THE

OPERATION FOR STRANGULATED HERNIA.

Is it advisable, where they do not act spontaneously, to open the bowels, soon after the operation for strangulated hernia: or is it, on the contrary, desirable to favour the quietude of the alimentary canal?

This question has often perplexed me in watching cases of hernia: and the perplexity has been only augmented in my endeavours to remove it, by consulting the opinions of the most renowned surgical writers. One line of practice is insisted on by Louis, Samuel and Astley Cooper, Hey, Lawrence, Richter, Velpeau, and Syme; a totally opposite one by Dupuytren, Liston, Miller, Hancock, and others. Velpeau strenuously recommends purgatives after the operation, for their power in preventing inflammation: their undoubted tendency to excite and aggravate it, is the reason which Dupuytren alleges for objecting to them. The propriety of early administering them is regarded by Mr. Lawrence as one of the most unequivocal results of experience and the plainest dictates of

common sense: Mr. Hancock insists that the most unequivocal results of experience, and the plainest dictates of common sense, no less than doctrine, prove the injurious effects of purgative medicines after the operation for strangulated hernia.

Considering the great experience of the men who have defended each side of the question, and the certainty that the very opposite practices which they enjoin must in particular cases be productive of mischief, it becomes interesting to inquire into their respective claims to assent, by an examination of the reasons and facts they adduce in their support.

Professor Miller teaches, that "after successful reduction by operation, the same treatment is required as in the case of simple taxis..... bland enemata, but no purge by the mouth, however simple, until many hours have elapsed; otherwise, dilatation with obstruction will take place above the palsied portion of intestine, and the patient will probably sink under the symptoms of ileus."* Since dilatation with obstruction of the palsied portion of intestine is, to a greater or less extent, the condition *par excellence* of every patient whose bowels have not acted after his being the subject of strangulated hernia, there is no need of purgatives to induce it; the only question can be whether they would aggravate it: theoretically, we do not see how they can do so; and, practically, we know

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* Practical Surgery, second edit., p 364.

that they almost always succeed in speedily removing the obstruction,—reduction, I presume, of course, to have been effected prior to their administration. If in such cases purgatives exercise an injurious influence, it must be of altogether an opposite character to that attributed to them by Professor Miller; by so much stimulating the intestinal functions as to excite or aggravate already existing inflammation, or by determining the rupture of an ill-conditioned piece of bowel. So far from sharing the fear of the Edinburgh professor, Vidal, after remarking that many surgeons, influenced by theoretical preoccupations, have too exclusively condemned the use of purgatives after the operation for hernia, states that he has with great benefit had recourse to the exhibition of croton-oil, to overcome the excessive sluggishness of the bowels in some old subjects. It must be observed, however, that Vidal expresses himself dogmatically, and adduces no reasons or sufficient facts in defence of his own, and in condemnation of the opposite practice.*

For precisely the same reasons as Mr. Miller interdicts purgatives, Richter and Louis recommend them. "If the strangulation," to use Richter's words, "depend upon an impaction of fæces, the intestines are so weakened after the operation as

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* Traité de Pathologie Ext. et de Méd. Opératoire, vol. iv, p. 189.

not to be able to clear themselves of their contents, which are a source of irritation to them, and interfere with the patient's well doing. Small doses of Epsom salts and clysters speedily produce an evacuation, and get rid of the unpleasant symptoms."*

Louis' opinion may be gleaned from a series of reflections on the operation for hernia, which he published in the *Memoirs* of the Parisian Royal Academy of Surgery (8vo. edit., vol. xi.) In a case in which he operated for bubonocele with urgent symptoms, he prognosticated favourably, from the operation having presented no unusual difficulty, and the gut being in good condition ; yet the man died in less than twenty-four hours, with the symptoms unmitigated.

On *post mortem* examination, the small intestines were found filled with fluid between the stomach and the seat of strangulation, and the large intestines with a large quantity of very hard fæces. The patient had refused enemata before and after the operation. From the good condition of the portion of gut contained in the sac, Louis infers, that if the fæcal matters had been expelled by a mild purge, the patient would have been saved. After citing another case in point, he concludes, (Op. cit. p. 491): " These examples suffice to illustrate, on the one hand the danger entailed

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* Trattato delle Ernie. Prima Traduzione Italiana, Milano, 1802, p. 183.

by the omission of purgatives after the operation, and, on the other, the advantages accruing from them. It has therefore been improper to omit mentioning them, in the majority of works destined to the instruction of young surgeons: if enemata do not adequately fulfil the urgent indication, recourse must be had, and promptly, to laxative drinks."

In his most recent publication Mr. Liston directs, that after the operation for crural hernia, "the bowels should be allowed to rest quiet, no physic being administered of any kind."* Six years previously he taught, that after crural as well as after inguinal hernia, "large mild enemata are to be administered, and after some hours purgatives, so as to procure copious and free evacuation of the bowels."† It is remarkable that he should have given no reason for the change in his opinion upon this important practical matter; particularly as the change brought him into opposition with the teaching of an eminent authority, whom no one perhaps knew better how to appreciate than Mr. Liston; I allude to his friend Mr. Syme, who recommends, "that if evacuation of the bowels does not occur spontaneously within three or four hours after the operation, it ought to be gently elicited by giving a tablespoonful of castor-oil, which may, if necessary, be followed by the injection of a mild enema."‡

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* Practical Surgery, 1846, p. 560.

† Elements of Surgery, 1840, p. 532.

‡ Principles of Surgery, p. 318.

Baron Dupuytren believed, according to the expression of the editors of his *Leçons Orales*,* that when the constricting cause has been removed, and the hernia reduced, only the inflammation of the intestines can, by suspending the peristaltic movement, be opposed to the re-establishment of fæcal evacuations; and that stimulant enemata or purgatives, administered under these circumstances, even though they succeed in promoting the evacuations, must inevitably tend to increase the inflammation, and favour the development of enteritis and peritonitis—that is to say, of the most formidable complication, which is the almost invariable cause of death after herniotomy, and against which every curative effort should be directed. It is a knowledge of these facts which induced M. Dupuytren to prefer antiphlogistics and depletives, to stimulants and purgatives.

The very foundation of the baron's reasoning is an unfounded assumption: "Only," he says, "the inflammation of the intestines can, by suspending the peristaltic movement, be opposed to the re-establishment of the fæces:" but any one who has opened a considerable number of bodies within two or three days after the operation for hernia, cannot fail to have met with several cases in which the fæcal course had not been re-established, and in which no, or scarcely any, inflammation appeared on dissection;

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* Leçons Orales de Clinique Chirurgicale, vol. iii, p. 261.

but the precise limits of the portion of gut that had been contained in the sac were unmistakably pointed out by the circular depressions in its coats; and whereas the distal bowel was very small, empty, and pale, that between the seat of stricture and the gut was big, venously congested, flabby-looking, and filled with fluid and solid fæces. In such a case, debility from long-continued inaction and mechanical constriction is manifestly the cause that has impeded the intestinal function; the local exhaustion of intestinal function has been so great, that removal of the cause has not proved a sufficient remedy: a stimulus was required to set the bowel in action and unload itself. But, for the sake of argument, admitting the baron's assumption, that inflammation is the only cause which can prevent the bowels from acting, the reasons he adduces for excluding purgatives from the after-treatment are not admissible. He prefers antiphlogistics and depletives to stimulants and purgatives. But thus classing purgatives with stimulants, he begs the whole question. The point at issue is precisely whether purgatives may or may not be antiphlogistics and depletives under the circumstances? The accumulated fæces *must be* an irritating cause, their removal *must per se* have an antiphlogistic effect, and the large amount of secretions forced out by the mucous membrane may fairly be supposed to do some good in unloading the engorged vessels. But far from

sustaining in general terms that a purgative in enteritis acts as an antiphlogistic and depletive, I suggest that it does exercise those agencies, to a greater or less extent, when given to patients labouring under enteritis after the operation for strangulated hernia, and in whom, the bowels not having been relieved, fæcal accumulations and the non-re-establishment of the intestinal secretive functions cannot but act as an incentive to inflammatory action. On this head, however, doubts may be raised: but even supposing the opposite to be proved—that in such cases purgatives tend to augment the inflammation—Dupuytren's arguments would only apply to those cases in which peritonitis and enteritis already exist. Happily, however, the number of cases of hernia operated upon before they supervene is considerable; and in solving the question whether purgatives should be administered to them or not, his arguments do not certainly apply with much force; in such cases the antiphlogistic and depletive effect of evacuating the bowels cannot fairly be doubted. The teaching of M. Dupuytren on this head is far too much in accordance with the doctrine of his brilliantly talented but too speculative contemporary, M. Broussais, to deserve much attention, opposed as it is to the opinions, founded on experience, of Velpeau and Lawrence.

M. Velpeau thus comments upon Dupuytren's teaching in this matter. "At first sight one is

struck with the weight of his reasoning, though at bottom it be easy of refutation. In point of fact, the matters accumulated in the intestine are a powerful cause of inflammation. Now, the best means of extinguishing or of preventing the inflammation is to expel the fæces. In this way purgative enemata and drinks exercise a power which no one can call into question. At the hospital of Tours I have seen M. Gouraud operate on a large number of herniæ, giving a purgative to all his patients immediately afterwards; and nowhere, so far as I am aware, has greater success been witnessed. M. Boyer, who appears to follow the same custom, has the reputation of being very successful in these operations." M. Velpeau enjoins, "that if the bowels do not act spontaneously after two or three hours, a simple enema should be given. In case of its failing, it may soon be followed by another, of somewhat more stimulating nature. If, after twelve hours, the evacuations had not commenced, it would be necessary to have recourse to purgative enemata with decoction of senna. Many practitioners are in the habit of exhibiting simultaneously a mild purgative by the mouth."*

Opposed to Dupuytren, Liston and Miller, and agreeing with Louis, Richter, Boyer, Syme and Velpeau, is Mr. Lawrence. In his instructions for the treatment after the operation for strangulated

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* Nouveaux Elémens de Médecine Opératoire, tome ii, p. 399.

hernia, we find:—"When the operation is finished, the patient should be placed in bed and allowed to remain there quietly for some time, a little thin gruel or diluent being given, if it is desired. The pain is lessened and the vomiting ceases after the operation; sometimes the bowels are spontaneously relieved, and a considerable abatement of the symptoms generally ensues. More commonly it is necessary to solicit the action of the intestinal canal by aperients and injections. If, therefore, the bowels should not have been relieved in three or four hours, a few grains of calomel may be given in a pill; or two pills may be administered, consisting of calomel and the compound extract of colocynth in equal parts. The sulphate of magnesia may be given afterwards in a dose of two drachms, or of one drachm, in the infusion of roses, or in a mixture of mint water and common water; and this should be repeated every three or four hours until the bowels are freely relieved. If this desirable result should not occur before the second dose, a large common injection should be thrown up, with the addition of four or six ounces of infusion of senna, or an ounce of castor oil. We must repeat those or similar means, and persist in their employment, until the canal is completely unloaded; remembering that the intestines frequently contain a large collection of fæcal matter and of morbid secretions, which can only be got rid of by several copious motions, and that the

operation of purgatives must be salutary, not merely by removing this noxious accumulation, but by exciting a discharge of fluids calculated to lessen inflammatory action. The notion that purgatives are capable of exciting the mucous membrane of the alimentary passages, and thus of producing or aggravating inflammation of the stomach or bowels, and the prohibition of their employment on this account both after the operation for strangulated hernia and in many other cases, is in my opinion entirely groundless; and the practical precepts founded upon this theoretical and imaginary foundation, have always appeared to me a signal triumph of doctrine over the most unequivocal results of experience and the plainest dictates of common sense."* Thus Mr. Lawrence, whose *Treatise on Hernia*, published in the early part of the present century, is admitted by surgeons of all countries to be one of the most valuable contributions ever made to surgery, has, in a fifth edition, after devoting nearly half a century to very extensive practice, a great part of which has been in the largest hospital in London, insisted on the propriety of opening the bowels early after the operation, and characterised as *entirely groundless* the reasons adduced against that practice.

The opinions hitherto quoted must rather be regarded as reminiscences of the practice of their

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* Treatise on Rupture, fifth edition, p. 322.

respective authors, than as precise conclusions deduced from analyses of recorded facts. Rather than satisfy all desire for information on the subject, they suggest the desideratum of a statistical inquiry as the only means of definitively settling the question. Such an inquiry has been undertaken by Mr. Hancock;* and from an analysis of 432 cases, he has inferred that purgatives after the operation for strangulated hernia do harm. In support of his opinion, he alludes to cases in which, though the bowels have been allowed to remain torpid several days after the operation, recovery has taken place. No one denies such cases; experience furnishes many, and apart from it we should suppose them to be numerous; but they do not affect the question, whether or no in another class of cases, opening the bowels may not do good, and avoiding doing so be productive of harm. Cases of hernia differ so very widely, that we cannot apply to some, the reasoning deduced from others, without considering all modifying circumstances. A hernia may become strangulated just after a patient has had a copious motion, and a dozen hours may elapse before relief is afforded. Supposing the operation needed, it is performed, and the gut may be found in a very good state. If additionally the general health have suffered little, it is perfectly clear that there would not be much

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* Observations on Hernia, 1850, pp. 72-80.

fear of mischief, even though this person's bowels were not opened for a week; but would the result in this case afford any just ground for anticipating the same result from similar treatment in a case differing from the above in almost every important particular? If the illustrious Morgagni, in an excess of zeal for accurate study, erred in exclaiming, "*Observationes perpendendæ non numerandæ*", the fundamental truth of the great idea which guided him in the execution of his stupendous work cannot be questioned. The first step towards generalisation is to weigh the individual facts, a process to which those accumulated in Mr. Hancock's table have not been submitted. When it is borne in mind how greatly the results in hernia are influenced by numerous circumstances, before, during, and after the operation, only limited value can be attached to conclusions, deduced as to the influence of one circumstance, irrespective of an accurate estimation of all the others, opposed as these conclusions are to the teaching of Louis, Richter, Velpeau, Lawrence, and Syme. Truly, they are in consonance with the opinions of Dupuytren and Liston; but that of the former, from its fallacious theoretical foundation, does not merit the respect which the great name of its author inspires; while the value of that of the latter is seriously lessened by its being in direct opposition to what Mr. Liston himself taught a few years previously, and not supported by a statement of the reasons which induced the change.

The weight of authority is against the two last named surgeons and their followers. To this fact, however, any one acquainted with the history of similar discussions will justly attribute only a qualified value. How often have a comparatively small number of facts, collected by one or a very few men, subverted dogmatic teaching which had not been called in question for ages. There can be no doubt but that such instances will multiply in proportion as facts are observed more correctly. But there is one reason in particular why the testimony of the majority in the present instance deserves especial attention. Louis, Lawrence, Velpeau, and their followers, who recommend purgatives because they may do good and can do no harm, have had the opportunity in an immense number of cases to test the propriety of such practice; but Dupuytren, who on doctrinal grounds alone opposes purgatives, cannot have had much opportunity of testing their effects, for he abstained from using them. Mr. Liston, it is true, having held both doctrines and pursued both lines of practice, deserves more consideration; but I have already stated reasons why his opinion on this matter cannot be admitted as decisive.

To determine the merits of these two opposite lines of practice, a very extensive experience on this particular subject is needed; more extensive and accurate than is perhaps recorded in the note-books of any individual surgeon. I have observed both, in a

very considerable number of cases; but so very various are the conditions of strangulated herniæ, that a much larger number than I possess is indispensable for the basis of an analysis adequate to the solution of the problem.

I have never seen harm result from the exhibition of an enema, containing from one to two ounces of oil, shortly after the operation. When this has not been followed by an evacuation, I have seen it induced, with relief to the patient, by a mild purge. I have repeatedly seen patients in whom the bowels did not act spontaneously after the operation relieved from a state of general uneasiness, so soon as means were adopted to promote an evacuation. It is important to notice that, in none of my cases in which purgatives were prescribed, was there at the time severe inflammation, or reason, from the appearance of the gut at the time of operation, for fearing its disorganisation. The light which these observations afford, enables me to appreciate in great measure the merits and defects of the two practices in question, and to arrive at as near an approach to the truth as is at present possible.

The various conditions in which we find cases of hernia at the time of operation, admit of their arrangement under four heads. 1. Those cases in which the intestine is in good condition, and inflammation has not yet manifested itself; 2. Those in which, though the bowel is in very fair condition, there are local and general signs of a moderate

amount of peritonitis; 3. Those in which the bowels are notably discoloured, but of good consistence, peritonitis being intense; 4. Those in which there is threatening gangrene of the gut.

Let us consider the first class of cases. Since it is reasonable to suppose that in a case of strangulated hernia that has been operated upon, the relief of a part at least of the uneasiness which has been occasioned by the interruption of the intestinal function, is immediately due to its restoration, we should in this class of cases theoretically be disposed to promote the action of the intestines, when it does not occur spontaneously, a short time after the constriction has been removed. Such practice seems the more reasonable, in that there can be no fear of aggravating inflammation which does not exist, and in that there is reason to believe that the expulsion of the accumulated fæces is tantamount to the exclusion of a possible, if not a probable cause of inflammation.

In the second class of cases, the first part of the argument used above applies, but not the second; for inflammation exists, and the question arises, whether the administration of purgatives, theoretically indicated by the necessity of restoring the intestinal functions, may not be productive of evil by aggravating the inflammation. From what I have seen, however, these fears would not disquiet me. I think there is more chance of the progress of moderate inflammation being checked by the ex-

pulsion of the irritating fæces, and restoration of the gut to its function, than of its being aggravated by the stimulant action of the purgative.

In the third class of cases, in which the bowel is in moderate condition, but the peritoneum intensely inflamed, it is reasonable to believe that the constipation, although in great measure dependent upon the atony which has resulted from long inactivity, is likewise due to the disturbance of innervation incident upon the inflammation. It seems hence prudent to respect the objections of those who allege that the inflammation may be aggravated by purgatives; but while antiphlogistics are being actively employed, there is no reason for objecting, if the bowels do not act, to enemata; the probabilities of their doing good are much greater than those of their possible perniciousness.

In the fourth class of cases (threatening gangrene of the intestine), inasmuch as there is more to fear from the action of the intestines, though it be but moderate, than from their inactivity, though it be extreme, enema and purgatives are contra-indicated so long as there is reason to fear disorganisation of the gut.

From the foregoing considerations flow three rules for practice, in cases in which the operation of herniotomy is not followed by spontaneous action of the bowels.

1. When the condition of the gut is good, and there is little or no peritonitis, an oleaginous enema

should be given an hour or two after the operation, and repeated after three or four hours in case of failure, or a mild purgative exhibited by the mouth.

2. When the peritoneal inflammation is intense, even though the bowels be in fair condition, antiphlogistics must be perseveringly employed; and though a simple enema may be given in the first six hours, and be advantageously repeated, it is inadvisable to excite the action of the bowels until the next day, either by more active enemata or purgatives by the mouth.

3. In the case of mortification threatening the gut, the bowels should be kept quiet by opium, and purgatives and enemata jealously abstained from until the danger of perforation has passed.

These rules promise to be faithful guides for practice, inasmuch as they are in conformity with sound doctrine, and, so far as I am aware, opposed by no facts; but the great rule is, to observe rigorously the symptoms of each particular case, to study its indications and aid nature with the lights which doctrine and practice reflect, and not to pretend to act according to systematic rules based upon speculations, in cases which present infinite varieties, according to the age and constitution of the patient; the duration, size, and position of the hernia; the degree and duration of the strangulation; the condition of the intestine; the presence or absence of inflammation; and other more or less important conditions. In truth, just as there is reason for

dissenting from those who systematically oppose purgatives after herniotomy, there is reason for not placing implicit faith in the teaching of those who universally recommend them. If there be any class of cases in medicine and surgery—and there are many—in which systems are injurious, and in which each case requires to be studied of itself with the light of reason and experience, that class is preeminently the one which comprises cases of strangulated hernia.

T RICHARDS, PRINTER, 37, GREAT QUEEN STREET.

By the same Author.

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